

APPLICANT(S): ID DAN, Gavriel J.
SERIAL NO.: 10/812,908
FILED: March 31, 2004
Page 6

REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1, 2, 4-13, 15-24, and 29-42 are pending in the application.

Claims 1, 2, and 4-33 have been rejected.

Claims 1, 13, and 29 have been amended in this submission.

Claims 14 and 25-28 have been canceled without prejudice or disclaimer. In making this cancellation without prejudice, Applicants reserve all rights in these claims to file divisional and/or continuation patent applications.

Claims 34-42 have been newly added in this submission. It is respectfully asserted that no new matter has been added by these claims.

CLAIM REJECTIONS

35 U.S.C. § 102 Rejections

In the Office Action, the Examiner rejected claims 1, 2, 3-6, 8-11 and 29-33 under 35 U.S.C. § 102(b), as being anticipated by Mizumoto (US Patent No. 4,278,077).

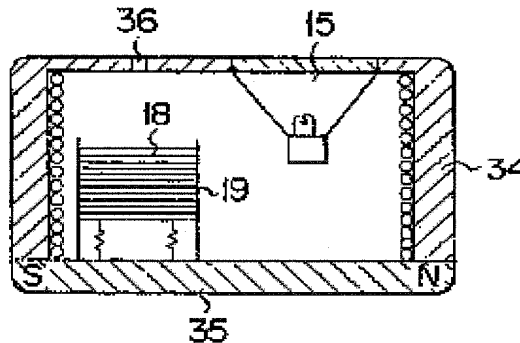
Mizumoto discloses:

A capsule-shaped miniature camera comprising at least one permanent magnet, an induction coil, a lamp serially connected to the induction coil and a shutter device. The induction coil induces an electromotive force

when an magnetic field generated by electromagnets outside the camera acts on it. The electromotive force turns on the lamp and drives the shutter device. (Abstract)

The Examiner agrees that the predominance of the embodiments disclosed do not include a ballast. In particular, however, the Examiner points to Fig. 7, which is reproduced below:

FIG. 7



The specification of the Mizumoto patent describes Fig. 7, as follows:

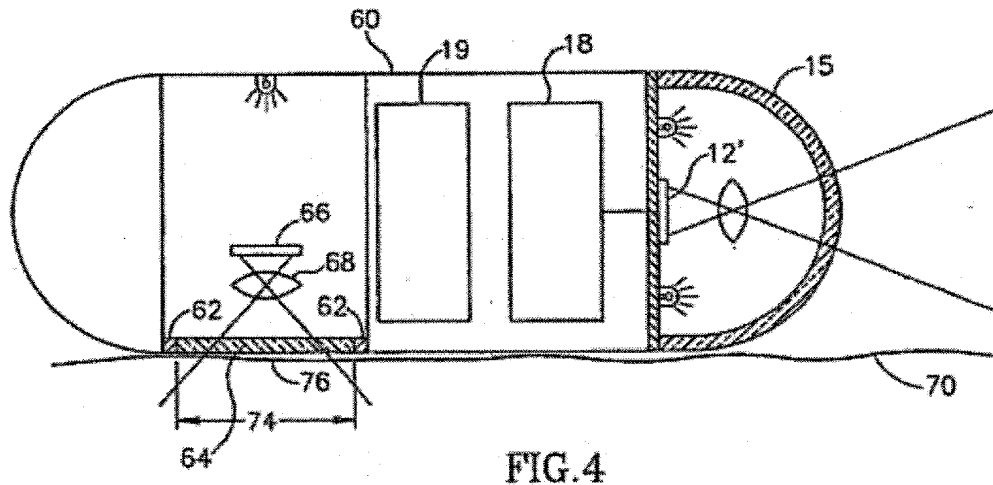
The camera shown in FIG. 7 comprises an envelope 34 and a permanent magnet 35. The permanent magnet 35 extends in the lengthwise direction of the envelope 34 and is secured to the envelope 34. That portion of the envelope 34 which is diametrically opposite to the magnet 35 has a pinhole 36 and a window both covered with transparent panes. Within the envelope 34, a film box 19 is disposed to face the pinhole 36, and a lamp 15 to face the window. Every time the lamp 15 is turned on, an image of the interior of the body cavity is focused on a film 18 in the film box 19. The amount of light emitted by the lamp 15 can be controlled. (col. 4 lines 8-19, emphasis added)

The Examiner pointed to Figure 7 and stated that the magnet 35 functions as a ballast. However, nothing in this portion suggests any functionality that would require an orientation by weighting of the magnet 35. Moreover, the relative weight (or density) of magnet 35 with respect to envelope 34 is not specified. In addition, the particular orientation of the camera module within the capsule is not disclosed. Therefore, there is nothing to indicate conclusively that magnet 35 is a ballast to orient the capsule wherein said device has a center of gravity displaced from the longitudinal axis of symmetry, as recited in claim 1.

In any event, even if the magnet acts as a ballast, it is clear that the effect would be to position the lamp, pinhole, and film so as to expose on the film an image of the side of the capsule opposite the magnet 35. However, amended claim 1 recites an image sensor

“positioned to acquire images through a window in a transverse side of a housing of the device” and “a ballast located off the longitudinal axis of symmetry, wherein said device has a center of gravity displaced from the longitudinal axis of symmetry toward said window.”

Therefore, Mizumoto does not disclose imaging through a window on the same side as a ballast. This configuration, which may be particularly useful to perform optical biopsies, is described in the application as filed at Fig. 4, reproduced below:



The embodiment is also described in detail, for example, at paragraphs [0045]-[0046] of the application as published:

[0045] In this embodiment, device 60 may include one or more ballast(s) 62 positioned around a downward looking window 64, an optical biopsy imager 66 looking through downward looking window 64 and a magnifying optical system 68, shown schematically as a lens. With ballast 62 around window 64, device 60 may fall with imager 66 looking downward at a wall 70 of a large lumen 72. Imager 66 may then image, in detail, a section 74 of wall 70. In FIG. 5, section 74 contains a pathology 76 which imager 66 may view.

[0046] In accordance with an embodiment of the present invention, imager 66 may operate as a microscope or a magnifying lens, providing magnification of section 74, in-vivo, such that a physician may be able to "take a biopsy" internally, rather than having to surgically remove the pathological element in order to view it. The amount of magnification may be a function of the size of the pixels in imager 66 and the optical qualities of optical system 68.

APPLICANT(S): ID DAN, Gavriel J.
SERIAL NO.: 10/812,908
FILED: March 31, 2004
Page 9

Thus, the optical biopsy device as recited in amended claim 1 is not disclosed by the Mizumoto reference.

Nor would amended claim 1 have been obvious in view of Mizumoto. To the extent the magnet 35 of Mizumoto acts as a ballast, it would operate to weight the capsule with the magnet downward and to image upward, i.e., in opposite directions. There is no suggestion or motivation to capture an image on the side of the magnet, nor is there disclosed any way of doing so. Moreover, it is clear that the Mizumoto reference is incapable of performing the optical biopsy of Fig. 4. For example, the Mizumoto reference fails to disclose a ballast to be used in conjunction with a window. Also, a ballast around a window (claim 34) is not disclosed. An optical system, for example, including a magnifier, to image the same longitudinal side as the ballast are not disclosed by Mizumoto (claims 35-36).

The arrangement of amended claim 1 has unexpected and unobvious benefits, for example, such an optical biopsy device may operate as a microscope or a magnifying lens, providing magnification of an in vivo section, such that a physician may be able to "take a biopsy" internally, rather than having to surgically remove the pathological element in order to view it.

Amended claim 1 is therefore allowable over the art of record, and the Examiner is respectfully requested to withdraw the rejection. In addition, claims 2, 4-6, 8-11, and 29-33, which depend directly or indirectly from claim 1, are likewise allowable.

Applicants further point out additionally newly claimed features that are neither disclosed nor obvious in light of the cited art, e.g., wherein said ballast is positioned around said window (claims 34, 40); an optical system located on a transverse side of said in-vivo device displaced from said longitudinal axis of symmetry (claims 35, 41); and wherein said optical system comprises a magnifying device (claims 38, 42).

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claim 7 under 35 U.S.C. § 103(a), as being unpatentable over Mizumoto in view of Miyazaki (US Patent No. 6,184,923). Applicants point out that Mizumoto and Miyazaki taken together do not disclose the elements

APPLICANT(S): ID DAN, Gavriel J.
SERIAL NO.: 10/812,908
FILED: March 31, 2004
Page 10

of claim 1, discussed above, from which claim 7 depends. Miyazaki does not disclose a ballast at all, but rather discloses a symmetrical device. Accordingly, Miyazaki does not remedy the deficiencies of the Mizumoto reference.

In the Office Action, the Examiner rejected claims 12-22, 24-26, and 28 under 35 U.S.C. § 103(a), as being unpatentable over Mizumoto in view of Mullick (US Patent No. 7,039,453). Claims 25, 26 and 28 have been cancelled. In addition, Applicants point out that Mizumoto and Mullick taken together do not disclose the elements of claims 1 and 13 discussed above. Accordingly, claims 12-22, and 24 are allowable.

In the Office Action, the Examiner rejected claims 23 and 27 under 35 U.S.C. § 103(a), as being unpatentable over Mizumoto and Mullick in view of Miyazaki (US Patent No. 6,184,923). Claim 27 has been cancelled. In addition, Applicants point out that Mizumoto and Mullick and Miyazaki taken together do not disclose the elements of claim 13, from which claim 23 depends. Accordingly, claim 23 is allowable.

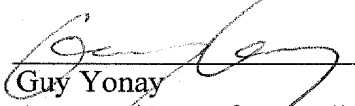
APPLICANT(S): IDAN, Gavriel J.
SERIAL NO.: 10/812,908
FILED: March 31, 2004
Page 11

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,


Guy Yonay
Attorney/Agent for Applicant
Registration No. 52,388

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Pearl Cohen Zedek Latzer, LLP
1500 Broadway, 12th Floor
New York, New York 10036
Tel: (646) 878-0800
Fax: (646) 878-0801